# CHAPTER 3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

## Introduction

This chapter summarizes the physical, biological, social, and economic environments of the analysis area and the effects of implementing each alternative on those environments. It also presents the scientific and analytical basis for the comparison of alternatives presented in the table at the end of Chapter 2.

Each of the following resource analyses includes an Affected Environment Section that describes the geographic and temporal scope used to describe current resource conditions. These boundaries are used to determine the extent and magnitude of effects in the subsequent section on environmental consequences. The effects area for a particular resource is strongly related to the science (biology, geology, ecology) of that resource and may not be confined to the boundaries of the analysis area. For example, the effects area for air quality analysis comprises much of northwest Montana.

The Environmental Consequences sections discuss in detail the environmental effects that would occur for each alternative. It forms the scientific and analytical basis for the alternative comparisons presented at the end of Chapter 2 and in the summary (40 CFR 1502.16). The effects of the No-Action alternative (Alternative A) form a baseline against which all other alternatives are evaluated. Each narrative begins with a brief explanation of how effects were analyzed and the models used for each resource. When the effects or impacts are associated with an issue, as described in Chapter 1, its relevance and tie with the issue is discussed and plays an important role in the evaluation of alternatives.

All of the action alternatives include varying intensities of timber salvage and changes to travel management. Therefore, the environmental effects of the alternatives vary. The level of detail for each resource analysis depends on the character of that resource, the amount of information available, importance of effects, and the scale of analysis most informative or relevant for that affected resource.

Environmental effects can be direct, indirect, or cumulative. They can be long or short in duration. Effects can be quantitative or qualitative, adverse or beneficial, actual or potential. It is important to consider timing and location of effects. Direct effects are those that are caused by the action and occur at the same time and place. Indirect effects are those that are caused by the action and are later in time or further removed in distance, but are still reasonably foreseeable (40 CFR 1508.8). In most cases direct and indirect effects are discussed together. Cumulative effects are those that result from the incremental impact of the action when added to other past, present, and reasonable foreseeable future actions (40 CFR 1508.7). Therefore, the discussion of effects first considers the direct and indirect effects of each alternative and does not consider cumulative effects unless direct and indirect effects exist. Chapter 1 described other actions (past, other present, reasonably foreseeable)

that have the potential to contribute to cumulative effects for the resources in the area. In this chapter, these actions are considered by each resource.

As the effects on a resource for each alternative are read, the supplemental maps should be referred to for the location of activities and area of analysis.

Discussions under each resource include a description of the regulatory framework associated with each resource. Environmental laws such as the National Forest Management Act (NFMA), Endangered Species Act, Clean Water Act, and Clean Air Act provide the direction to the Forest Service for management of forest resources. These laws are interpreted and defined through the Code of Federal Regulations (CFRs), Administrative Rules of Montana (ARMs), Land and Resource Management Plan (LRMP) direction, Forest Service Manual direction, and Forest Service policy. The regulatory framework associated with each resource is helpful in relating national and Forest direction to resource analysis procedures. The regulatory framework section is included in the Affected Environment section, with regulatory consistency findings at the end of the effects analysis for each alternative.

## Relationship of this DEIS to Land and Resource Management Plan Direction

The general management direction of the Flathead National Forest is found in the LRMP. The LRMP document provides Forest-wide goals and objectives for its diverse resources (pp. II-1 through II-57), as well as more specific management direction for sub-units of the Forest, referred to as Management Areas. Please see Appendix B for a description of the Management Areas found in the West Side Reservoir area.

Consistency of the alternatives with LRMP direction is determined after the effects analysis is completed. If one of these alternatives or the components of the alternatives that make them not consistent with the LRMP are selected in the Record of Decision, a non-significant, project-specific LRMP amendment or amendments would be part of the Record of Decision.